offers similar or reduced HbA1c reduction, had comparable significant weight loss to other SLGT-2s and GLP-1s, and appeared to have a superior weight loss profile compared with DPP-4s and TZDs.. No increased risk of adverse events were observed for empagliflozin compared with placebo and other ADs.

PDB6

COMPARATIVE EFFICACY AND SAFETY OF EMPAGLIFLOZIN WITH OTHER ANTIDIABETIC DRUGS FOR THE THIRD LINE TREATMENT OF TYPE 2 DIABETES MELLITUS

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OBJECTIVES: The aim of the present network meta-analysis is to compare the efficacy and safety of empagliflozin versus other antidiabetic drugs used in third line for the treatment of patients with type 2 diabetes mellitus (T2DM). **METHODS:** We conducted a systematic review randomized controlled trials (RCTs) and Bayesian network meta-analysis to establish the comparative efficacy and safety of SGLT-2s, DPP-4s, GLP-1s, and TZDs. RCTs enrolling subjects with T2DM inadequately controlled on metformin plus sulfonylurea were included. The principal outcome of this analysis was the effect of these drugs on HbA1c, weight, systolic blood pressure (SBP), incidence of hypoglycaemia and urinary tract infections (UTIs) at 24 weeks. **RESULTS:** From 6969 abstracts, 13 were included in the analysis. No RCTs involving TZDs were identified. Compared with placebo, mean changes in HbA1c were -0.65% [95% confidence interval (CI) -1.59 to -0.08%] and -0.60% [95%CI -1.14 to -0.14%] for empagliflozin 10mg and 25mg. No significant differences were detected between interventions. Mean changes in weight with empagliflozin 10mg and 25mg were -1.77 [95%CI -2.19 to -1.35) and -2.00 (95%CI -2.44 to -1.57), respectively. Mean weight losses were fairly similar across SLGT-2s and GLP-1s ranging between -1.26 to -2.12. All DPP-4s were associated weight gains, ranging form 0.33 to 0.98, of which most were statistically significant. SBP data were only available for SGLT-2s and DPP-4s. Empagliflozin 10mg and 25mg compared with placebo had statistically significant reductions of -2.70 and -2.09. All interventions (except exenatide) yielded relative risk of hypoglycaemia greater than 1.00. For UTIs, no differences were found between SLGT-2s or DPP-4s and placebo. **CONCLUSIONS:** Compared with other SGLT-2s, DPP-4s, and GLP-1s, empagliflozin generally offers similar HbA1c control at week 24, an advantageous profile in weight loss and reduction of SBP, as well as similar safety profile.

PDB7

COMPARATIVE EFFICACY AND SAFETY OF EMPAGLIFLOZIN WITH OTHER ORAL ANTIDIABETIC DRUGS FOR THE SECOND LINE TREATMENT OF TYPE 2 DIABETES MELLITUS

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OBJECTIVES: To compare the efficacy and safety of empagliflozin versus other second-line treatment for patients with type 2 diabetes mellitus (T2DM). **METHODS:** A systematic review and Bayesian network meta-analysis were performed to identify randomized controlled trials (RCTs) assessing the efficacy and safety of SGLT-2s, DPP-4s, GLP-1s, TZDs, and SUs in patients with T2DM. RCTs enrolling subjects with T2DM inadequately controlled with metformin monotherapy were included. The principal outcomes were HbA1c, weight, systolic blood pressure (SBP), hypoglycaemia, and urinary tract infections (UTIs) at 24 weeks. **RESULTS:** Forty-eight RCTs were included. The mean differences (MD) in HbA1c were -0.56% [95% confidence interval (CI) -1.06% to -0.08%] and -0.64% [95%CI -1.14 to -0.14%] for Empagliflozin 10mg and 25mg vs placebo. All other interventions yielded similar reductions and no significant differences were detected between interventions. Empagliflozin 10mg and 25mg significantly changed patients' weight by -1.63kg (95%CI -2.66 to -0.64) and -2.01kg (95%CI -3.02 to -1.02), versus placebo. Other SLGT-2s had similar MDs, all DPP-4s had no change, and GLP-1s fell in between. All SUs and TZDs were associated with significant weight gain versus placebo. For SBP, the MDs for Empagliflozin 10mg and 25mg versus placebo were -4.09mmHg (95%CI -6.97 to -1.18) and -4.81mmHg (95%CI -7.69 to -2.00). No significant differences between Empagliflozin and other interventions were detected. Incidence of hypoglycaemia for empagliflozin 10 and 25 mg relative to placebo was 2.71 [95%CI 0.46 to 11.44] and 1.97 [95%CI 0.23 to 9.57], respectively. No significant differences were detected between emplagliflozin and other interventions. For UTIs, all yielded relative risks close to 1.00 when compared with placebo. **CONCLUSIONS:** Compared with other SGLT-2s, DPP-4s, GLP-1s, TZDs, and SUs, empagliflozin offers similar HbA1c control at 24 weeks, a marked reduction in weight compared with DPP-4s, TZDs, and SUs, and a similar safety profile as other interventions.

PDB8

LONG-TERM MODELING OF USING MANUALLY CODED AND AUTOCODED BLOOD GLUCOSE METERS IN DIABETES TREATMENT

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OBJECTIVES: To obtain long-term clinical outcomes of using manually coded and autocoded blood glucose meters in diabetes treatment in the Russian Federation. **METHODS:** The model used in this study analyzed the influence of errors in blood glucose measurements (due to using manually or autocoded glucose meters) on the treatment of patients with Type 1 and Type 2 diabetes during the 26 years period (the life-time period). Life years gained (LYG) was chosen as an outcome measure in assessment of health intervention. Calculation of LYG was based on prior clinical studies that evaluated glucose meters' errors in glucose level measurements and risk of complications associated with blood glucose level. Data for patients with diabetes was obtained from prior epidemiological studies that had been provided in Russian Federation. **RESULTS:** Use of manually coded blood glucose meters in the analyzed population with median age of 53 years during 26 years period was associated with 18,59 LYG. At the same time use of autocoded blood glucose meters was associated with 18,92 LYG. In case of using autocoded meters instead of using manually coding meters patients obtained 0,33 LYG more (120 days). **CONCLUSIONS:** Obtained results showed that difference in glucose measurement errors between manually coded and autocoded blood glucose meters can lead to the difference in long-term outcomes in diabetes treatment.

PDB9

ASSESSING THE RELATIONSHIP BETWEEN IMPROVED LIFE EXPECTANCY DUE TO BETTER CARDIOVASCULAR RISK FACTOR MANAGEMENT AND THE LIKELIHOOD OF MICROVASCULAR COMPLICATIONS IN TYPE 2 DIABETES MELLITUS

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OBJECTIVES: Type 2 diabetes mellitus (T2DM) is a chronic disease associated with increased risk of cardiovascular (CV) and microvascular complications. Improvements in blood pressure and cholesterol control have resulted in a reduction in CV event rates in clinical practice. The objective of this study was to assess the relationship between increased life expectancy, due to reduction in CV event rates, and the risk of microvascular disease for a range of glycemic control levels. **METHODS:** A lifetime analysis was conducted using the CORE diabetes model (CDM). Newly diagnosed T2DM simulated patients aged 52 years at baseline with HbA1c 7.1%, SBP 135.1 mmHg, total cholesterol: HDL 5.2 mmol/l were modelled. The impact of HbA1c on microvascular complications was assessed by running the CDM with baseline HbA1c ±1% for scenario 1: 100% of patient receiving CV risk factor management; and scenario 2: no CV risk factor management. **RESULTS:** Improved CV risk factor management reduced the predicted cumulative incidence of fatal myocardial infarction (MI) from 27% to 18%, increasing life expectancy by an average of 2 years. For scenario 1, baseline HbA1c +1% versus -1% was associated with a 20%, 11% and 4% increase in microalbuminuria (MA), gross proteinuria (GRP) and end stage renal disease (ESRD), respectively; for scenario 2, the increase was 15.5% for MA, 7.6% for GRP and 2.5% for ESRD. Cumulative incidence of neuropathy ranged from 68.4% (baseline HbA1c +1%) to 42.1% (baseline HbA1c -1%) for scenario 1 and from 65.2% (baseline HbA1c +1%) to 39.7% (baseline HbA1 c-1%) for scenario 2. Cumulative retinopathy rates were similar across both scenarios: 56.7% versus 56.0% for scenarios 1 and 2, respectively. **CONCLUSIONS:** This modeling study suggests that improvements in blood pressure and cholesterol management may result in increased rates of microvascular complications, in particular renal disease, over the long term as patient survival increases.

PDB11

A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS ASSESSING THE EFFECTIVENESS AND TOLERABILITY OF GLIPTINS AND SULFONYLUREAS AS MONOTHERAPY IN PATIENTS WITH TYPE 2 DIABETES MELLITUS IF METFORMIN IS NOT CONSIDERED APPROPRIATE

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OBJECTIVES: A significant proportion of patients with type-2-diabetes mellitus (T2DM) are unable to take Metformin as recommended first-line therapy due to gastrointestinal intolerance or contraindications such as chronic kidney disease. In contrast to combination therapy no network meta-analysis (NMA) has been undertaken for oral anti-diabetic drugs (OAD) as monotherapy in this population - particularly with respect to gliptins and sulfonylureas as second-line options. The purpose of this study is to assess the comparative effectiveness and tolerability of gliptins versus sulfonylureas in terms of glycated hemoglobin (HbA1c), body weight and hypoglycemia. **METHODS:** A systematic review was conducted searching bibliographic databases, reports of regulatory authorities and clinical trial registries through July 2012 to identify randomized controlled trials in adult T2DM patients receiving at least 12 weeks of OAD monotherapy or placebo. A Bayesian NMA was performed to yield mixed treatment comparisons. Consistency was examined by the node split method. **RESULTS:** A total of 62 studies enrolling 21,302 patients informed the entire network. Due to their improved model fit estimates from random effect models are reported to account for heterogeneity across the set of studies. After a mean follow-up of 32 weeks, the difference in mean HbA1c was 0.26, 0. 95 credible interval ($CrI_{0.95}$): [0.1; 0.42], in favour of sulfonylureas. However, gliptins induced weight loss (difference in means: -1.21 kg; $CrI_{0.95}$: [-1.57; -0.84]) and were associated with a considerably lower incidence of any hypoglycemia compared to sulfonylureas (odds ratio: 0.22; $CrI_{0.95}$: [0.15; 0.31]). All effect estimates were statistically significant and consistent in terms of combining direct and indirect evidence. **CONCLUSIONS:** This is the first network assessing OAD monotherapy that can readily be extended to emerging therapies. With regard to glycemic control gliptins were slightly inferior to sulfonylureas, whereas they positively affected body weight and risk of hypoglycemia, confirming their role in second-line monotherapy.

PDB12

GLYCEMIC, LIPID, AND BLOOD PRESSURE CONTROL AMONG INDIVIDUALS WITH TYPE 2 DIABETES MELLITUS IN SAUDI ARABIA

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OBJECTIVES: Inadequate glycemic, blood pressure (BP), and low-density lipoprotein (LDL) control among persons with type 2 diabetes mellitus (T2DM) increases the risk of T2DM-related complications, which require more intensive and costly therapy. Extending on a recently-conducted study in Dubai, UAE, we assessed levels of glycemic, LDL, and BP control, and estimated the proportion of those meeting